COPY OF PAPERS
ORIGINALLY FILED**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In the Claims:**

Claims 1-38, have been canceled and new claims 39-55 have been added as follows:

- ~~39~~. (New) An isolated nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO:1, or a complement thereof.
- ~~40~~. (New) An isolated nucleic acid molecule consisting of the nucleotide sequence set forth in SEQ ID NO:1, or a complement thereof.
- ~~41~~. (New) An isolated nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2, or a complement thereof.
- ~~42~~. (New) An isolated nucleic acid molecule which encodes a polypeptide consisting of the amino acid sequence set forth in SEQ ID NO:2, or a complement thereof.
- ~~43~~. (New) An isolated nucleic acid molecule comprising a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating cell wall biosynthesis.
- ~~44~~. (New) An isolated nucleic acid molecule consisting of a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating cell wall biosynthesis.
- ~~45~~. (New) An isolated nucleic acid molecule comprising a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a

complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating the production of a fine chemical.

~~46.~~ (New) An isolated nucleic acid molecule consisting of a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating the production of a fine chemical.

47. (New) An isolated nucleic acid molecule comprising the nucleic acid molecule of any one of claims 39-42, and a nucleotide sequence encoding a heterologous polypeptide.

48. (New) A vector comprising the nucleic acid molecule of any one of claims 39-42.

49. (New) The vector of claim 48, which is an expression vector.

50. (New) A host cell transfected with the expression vector of claim 49.

51. (New) The host cell of claim 50, wherein said cell is a bacterial cell.

52. (New) The host cell of claim 51, wherein said cell belongs to the genus *Corynebacterium* or *Brevibacterium*.

53. (New) The host cell of claim 52, wherein the expression of said nucleic acid molecule results in the modulation in production of a fine chemical from said cell.

54. (New) The host cell of claim 53, wherein said fine chemical is selected from the group consisting of: organic acids, proteinogenic and nonproteinogenic amino acids, purine and pyrimidine bases, nucleosides, nucleotides, lipids, saturated and

unsaturated fatty acids, diols, carbohydrates, aromatic compounds, vitamins, cofactors, polyketides, and enzymes.

55. (New) A method of producing a polypeptide comprising culturing the host cell of claim 53 under conditions in which the nucleic acid molecule is expressed, thereby expressing the polypeptide.

APPENDIX A

39. An isolated nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO:1, or a complement thereof.

40. An isolated nucleic acid molecule consisting of the nucleotide sequence set forth in SEQ ID NO:1, or a complement thereof.

41. An isolated nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2, or a complement thereof.

42. An isolated nucleic acid molecule which encodes a polypeptide consisting of the amino acid sequence set forth in SEQ ID NO:2, or a complement thereof.

43. An isolated nucleic acid molecule comprising a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating cell wall biosynthesis.

44. An isolated nucleic acid molecule consisting of a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating cell wall biosynthesis.

45. An isolated nucleic acid molecule comprising a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating the production of a fine chemical.

46. An isolated nucleic acid molecule consisting of a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating the production of a fine chemical.

47. An isolated nucleic acid molecule comprising the nucleic acid molecule of any one of claims 39-42, and a nucleotide sequence encoding a heterologous polypeptide.
48. A vector comprising the nucleic acid molecule of any one of claims 39-42.
49. The vector of claim 48, which is an expression vector.
50. A host cell transfected with the expression vector of claim 49.
51. The host cell of claim 50, wherein said cell is a bacterial cell.
52. The host cell of claim 51, wherein said cell belongs to the genus *Corynebacterium* or *Brevibacterium*.
53. The host cell of claim 52, wherein the expression of said nucleic acid molecule results in the modulation in production of a fine chemical from said cell.
54. The host cell of claim 53, wherein said fine chemical is selected from the group consisting of: organic acids, proteinogenic and nonproteinogenic amino acids, purine and pyrimidine bases, nucleosides, nucleotides, lipids, saturated and unsaturated fatty acids, diols, carbohydrates, aromatic compounds, vitamins, cofactors, polyketides, and enzymes.
55. A method of producing a polypeptide comprising culturing the host cell of claim 53 under conditions in which the nucleic acid molecule is expressed, thereby expressing the polypeptide.

Appendix B

U.S.S.N. 09/603,124

Attorney Docket Number: BGI-132CP

lalign output for seq id no 1 vs. wachi

[ISREC-Server] Date: Fri Aug 23 19:35:24 MET 2002

reset matrix file to /export/molbio/share/fasta2/pam120.mat ./wwwtmp/lalign/.9492.1.seq: 1581 aa

ALIGN calculates a global alignment of two sequences

version 2.0uPlease cite: Myers and Miller, CABIOS (1989) 4:11-17

seq id no 1 1581 aa vs.

wachi 2291 aa

scoring matrix: /export/molbio/share/fasta2/pam120.mat, gap penalties: -12/-4

68.1% identity; Global alignment score: 5614

```

      10      20      30      40      50      60
./wwwt GCAGGTAACGCCTCCACGGTGATTGCAGACATGATTGCTGCAACTATCAATAGCCAACAC
      :::: ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
wachi  -----ACGCGTCCACGGTGATTGCAGACATGATTGCTGCAACTATCAAAAAGCCAACAC
              10      20      30      40      50

      70      80      90      100     110     120
./wwwt AACTAAAACGACCAGCTCAACGCAAAGGAATAGTTTAAAGGTGACCACTCCACACTTGGA
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
wachi  AACTAAAACGACCAGCTCAACGCAAAGGAATAGTTTAAAGGTGACCACTCCACACTTGGA
              60      70      80      90      100     110

      130     140     150     160     170     180
./wwwt TTCTGCACAAGATATTGATCTGTCCCGCGTCCACCTCATCGGTATTGGCGGAGCCGGAAT
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
wachi  TTCTGCACAAGATATTGATCTGTCCCGCGTCCACCTCATCGGTATTGGCGGAGCCGGAAT
              120     130     140     150     160     170

      190     200     210     220     230     240
./wwwt GTCTGGCGTTGCCCGAATCCTGCTTGCCCGCGGTAAGACAGTCACTGGTTCCGATGCCAA
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
wachi  GTCTGGCGTTGCCCGAATCCTGCTTGCCCGCGGTAAGACAGTCACTGGTTCCGATGCCAA
              180     190     200     210     220     230

      250     260     270     280     290     300
./wwwt AGATTCCCGCACCTTGCTTCCACTCCGCGCCGTGGGAGCCACCATCGCAGTGGGACACGC
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
wachi  AGATTCCCGCACCTTGCTTCCACTCCGCGCCGTGGGAGCCACCATCGCAGTGGGACACGC
              240     250     260     270     280     290

      310     320     330     340     350     360
./wwwt TGCGGAAAACCTTGAGCTTTCCGGCGAACTTCCCACCGTCGTGGTGACCTCTTTTGCCGC
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
wachi  CGCGGAAAACCTTGAGCTTTCCGGCGAACTTCCCACCGTCGTGGTGACCTCTTTTGCCGC
              300     310     320     330     340     350

      370     380     390     400     410     420
./wwwt CATTCCGCAAGACAACCCGGAACCTTGTTCTGTCACGTGAAGAAGGCATTCCGTTATTTCG
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
wachi  CATTCCGCAAGACAACCCGGAACCTTGTTCTGTCACGTGAAGAAGGCATTCCGTTATTTCG
              360     370     380     390     400     410

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	430	440	450	460	470	480
./wwwt	TCGCTCCGATCTGTTGGGCGAATTGCTGGAAGGCTCCACCCAGGTCTTGATCGCGGGTAC					
	:	:	:	:	:	:
wachi	TCGCTCCGATCTGTTGGGCGAATTGCTGGAAGGCTCCACCCAGGTCTTGATCGCGGGTAC					
	420	430	440	450	460	470
	490	500	510	520	530	540
./wwwt	CCACGGTAAGACCTCCACCACCTCTATGTCTGTGGTAGCTATGCAGGCAGCGGGCATGGA					
	:	:	:	:	:	:
wachi	CCACGGTAAGACCTCCACCACCTCTATGTCTGTGGTAGCTATGCAGGCAGCGGGCATGGA					
	480	490	500	510	520	530
	550	560	570	580	590	600
./wwwt	TCCAAGCTTTGCTATCGGCGGACAGCTCAACAAGGCTGGCACCAATGCGCACCATGGAAC					
	:	:	:	:	:	:
wachi	TCCAAGCTTTGCTATCGGCGGACAGCTCAACAAGGCTGGCACCAATGCGCACCATGGAAC					
	540	550	560	570	580	590
	610	620	630	640	650	660
./wwwt	TGGTGAGGTCTTTATCGCTGAAGCAGATGAATCTGACGCATCGCTGCTGCGCTACAAGCC					
	:	:	:	:	:	:
wachi	TGGTGAGGTCTTTATCGCTGAAGCAGATGAATCTGACGCATCGCTGCTGCGCTACAAGCC					
	600	610	620	630	640	650
	670	680	690	700	710	720
./wwwt	AAATGTTGCAGTGGTCACCAATGTGGAACCAGACCACCTGGACTTCTTTAAAACCCCTGA					
	:	:	:	:	:	:
wachi	AAATGTTGCAGTGGTCACCAATGTGGAACCAGACCACCTGGACTTCTTTAAAACCCCTGA					
	660	670	680	690	700	710
	730	740	750	760	770	780
./wwwt	AGCCTACTTCCAAGTGTTTCGACGATTTTCGAGGACGCATCACCCCGAACGGCAAGCTGGT					
	:	:	:	:	:	:
wachi	AGCCTACTTCCAAGTGTTTCGACGATTTTCGAGGACGCATCACCCCGAACGGCAAGCTGGT					
	720	730	740	750	760	770
	790	800	810	820	830	840
./wwwt	TGTGTGCCTGAACGATCCTCACGCAGCGGAGCTGGGGGAGAGGTCTGTCCGCAAGGGTAT					
	:	:	:	:	:	:
wachi	TGTGTGCCTGAACGATCCTCACGCAGCGGAGCTGGGGGAGAGGTCTGTCCGCAAGGGTAT					
	780	790	800	810	820	830
	850	860	870	880	890	900
./wwwt	CAAGACTGTTGGTTACGGTACCGCTGACGCCGTACAGGCACACCCCTGAGGTTCCAGCGAT					
	:	:	:	:	:	:
wachi	CAAGACTGTTGGTTATGGTACCGCTGACGCAGTACAGGCACACCCCTGAGGTTCCAGCGAT					
	840	850	860	870	880	890
	910	920	930	940	950	960
./wwwt	GGCTACCATCGTGGATTCCCAAGTTGTTCGCAGAAGGCACCCGCGCCACCATCAACATCGA					
	:	:	:	:	:	:
wachi	GGCTACCATCGTGGATTCCCAAGTTGTTCGCAGAAGGCACCCGCGCCACCATCAACATCGA					

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	900	910	920	930	940	950
	970	980	990	1000	1010	1020
./wwwt	TGGACAGGAAGTATCTGTGATTCTTCAAATCCCTGGTGATCACATGGTACTCAACGGTGC					
wachi	TGGACAGGAAGTATCTGTGATTCTTCAAATCCCTGGTGATCACATGGTACTCAACGGTGC					
	960	970	980	990	1000	1010
	1030	1040	1050	1060	1070	1080
./wwwt	AGCCGCCCTGCTGGCCGGATACCTGGTGGGTGGGGACGTCGACAAGCTTGTTGAAGGCTT					
wachi	AGCCGCCCTGCTGGCCGGATACCTGGTGGGTGGGGACGTCGACAAGCTTGTTGAAGGCTT					
	1020	1030	1040	1050	1060	1070
	1090	1100	1110	1120	1130	1140
./wwwt	GTCGGATTTCTCCGGCGTGCGACGCCGCTTTGAGTTCCACGGTGCTATCGAGGGCGGCAA					
wachi	GTCGGATTTCTCCGGCGTGCGACGCCGCTTTGAGTTCCACGGTGCTATCGAGGGCGGCAA					
	1080	1090	1100	1110	1120	1130
	1150	1160	1170	1180	1190	1200
./wwwt	ATTTAATGGCGCTGCTATTTATGATGATTACGCACACCACCCAACGGAAGTAACTGCAGT					
wachi	ATTTAATGGCGCGGCTATTTATGATGATTACGCACACCACCCAACGGAAGTAACTGCAGT					
	1140	1150	1160	1170	1180	1190
	1210	1220	1230	1240	1250	1260
./wwwt	GCTCAGCGCTGCGCGCACCCGGGTGAAGGCCGCTGGAAAGGGCCGTGTCATCGTCGCGTT					
wachi	GCTCAGCGCTGCGCGCACCCGGGTGAAGGCCGCTGGAAAGGGCCGTGTCATCGTCGCGTT					
	1200	1210	1220	1230	1240	1250
	1270	1280	1290	1300	1310	1320
./wwwt	CCAACCACATTTATACTCACGCACCATAGAATTCCAAAAGGAGTTCGCGGGGCACTGTC					
wachi	CCAACCACATTTGTACTCACGCACCATGGAATTCCAAAAGGAGTTCGCGGAGGCACCTGTC					
	1260	1270	1280	1290	1300	1310
	1330	1340	1350	1360	1370	1380
./wwwt	ACTGGCAGACGCTGCCGTGGTGCTTGAGATTTACGGAGCGCGCAACAACCGGTGGATGG					
wachi	ACTGGCAGACGCTGCCGTGGTGCTCGAGATTTACGGAGCGCGCAACAACCGGTGGATGG					
	1320	1330	1340	1350	1360	1370
	1390	1400	1410	1420	1430	1440
./wwwt	CGTGTCTCTCGAAATCATCACCGATGCGATGACCATTCCAGTGGTGTACGAACCTAATTT					
wachi	CGTGTCTCTCGAAATCATCACCGATGCGATGACCATTCCAGTGGTGTACGAACCTAATTT					
	1380	1390	1400	1410	1420	1430
	1450	1460	1470	1480	1490	1500
./wwwt	CTCTGCAGTCCCAGAACGCATTGCAGAAATCGCAGGACCTAATGACATCGTGCTCACCAT					

Appendix B

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wachi CTCTGCAGTCCCAGAACGCATTGCAGAAATCGCAGGACCTAATGACATCGTGCTCACCAT
      1440      1450      1460      1470      1480      1490

      1510      1520      1530      1540      1550      1560
./wwwt GGGTGCAGGTTCCGTGACCATGCTTGCTCCAGAAATCCTGGATCAGCTGCAAAACAATTA
      .....
wachi GGGTGCAGGTTCCGTGACCATGCTTGCTCCAGAAATCCTGGATCAGCTGCAAAACAATTA
      1500      1510      1520      1530      1540      1550

      1570      1580
./wwwt GGACGTAAGTGAACAAGGCAG-----
      .....
wachi GGACGTAAGTGAACAAGGCAGGACTAGCGTGAACAAAAAAGTCATCGCCATTGTTGTGGG
      1560      1570      1580      1590      1600      1610

./wwwt -----

wachi TGTGGTTGTTGTCTCGTGGCAATCCTGGGCGTTGTTGCCTGGTTTCGTTCCCATCCTCAA
      1620      1630      1640      1650      1660      1670

./wwwt -----

wachi GGTGGGAAACATTGAAGTAACCGGTGCAACGCGCACAGATCCGGTCAAGTACTGGAAGT
      1680      1690      1700      1710      1720      1730

./wwwt -----

wachi CTCCGGGATTGTTGAGGGCGAAAACCTCTTCCGCGTCGATGCGACTGCAGCAGGGCAAAA
      1740      1750      1760      1770      1780      1790

./wwwt -----

wachi CATTGTGGAATTGCCCTGGGTGAAATCGGTGACCGTTAACCGTGCCCTGCCAAGCACCAT
      1800      1810      1820      1830      1840      1850

./wwwt -----

wachi CACCGTGGAGCTGACAGAGCGTGAGCCTGCAGTGTTTCATCAAGCGTGCTGATGGTGACCA
      1860      1870      1880      1890      1900      1910

./wwwt -----

wachi TGTCATTGACACCGAGGGTAAAGAAATTATCATTGGAACACCCCCGGTGGGAACAGTAGA
      1920      1930      1940      1950      1960      1970

./wwwt -----

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wachi AGTTTCTGGCGCGGATGAAGGAAACTCAGAAGTGCTTCCTGCGGTTATTGCTGTAATCAA
1980 1990 2000 2010 2020 2030

./wwwt -----

wachi CGCAATTAAAGCGCAAGATGCGCAAATGACAGAAAGTATCCAGGTAGTGGAAGCTCCGGA
2040 2050 2060 2070 2080 2090

./wwwt -----

wachi TCAATTTGATATCTTGCTGAAAATGAATGACGGCCGGGAAATCTACTGGGGATCCTCGGA
2100 2110 2120 2130 2140 2150

./wwwt -----

wachi AAACAACCACGACAAAGCGGTGGCAATGTCGACTGTTTTGAAGCGGGACGGCCAACGTTG
2160 2170 2180 2190 2200 2210

./wwwt -----

wachi GAACATTAGCTCACCTCAATGGTGACAGTCCGCTAAAGTAGCTGGGTAGTTCCGGTTCA
2220 2230 2240 2250 2260 2270

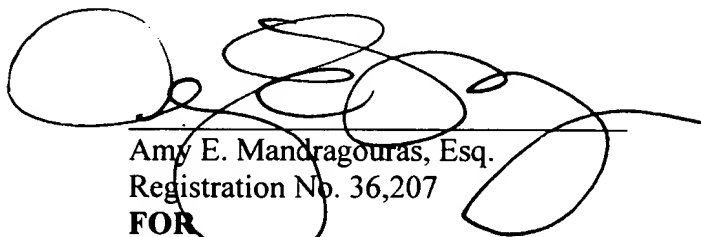
./wwwt -----

wachi CCCGTTTCCACAACGCGT
2280 2290

CONCLUSION

If a telephone conversation with Applicants' Attorney would expedite the prosecution of the above-identified application, the examiner is urged to call the undersigned at (617) 227-7400.

Respectfully submitted,

A large, stylized handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

Amy E. Mandragouras, Esq.
Registration No. 36,207

FOR

Elizabeth A. Hanley, Esq.
Registration No. 33,505
Attorney for Applicants

LAHIVE & COCKFIELD, LLP
28 State Street
Boston, MA 02109
Tel. (617) 227-7400
Dated: August 26, 2002

39. **(New)** An isolated nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO:1, or a complement thereof.
40. **(New)** An isolated nucleic acid molecule consisting of the nucleotide sequence set forth in SEQ ID NO:1, or a complement thereof.
41. **(New)** An isolated nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2, or a complement thereof.
42. **(New)** An isolated nucleic acid molecule which encodes a polypeptide consisting of the amino acid sequence set forth in SEQ ID NO:2, or a complement thereof.
43. **(New)** An isolated nucleic acid molecule comprising a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating cell wall biosynthesis.
44. **(New)** An isolated nucleic acid molecule consisting of a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating cell wall biosynthesis.
45. **(New)** An isolated nucleic acid molecule comprising a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating the production of a fine chemical.
46. **(New)** An isolated nucleic acid molecule consisting of a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, or a

complement thereof, wherein said nucleotide sequence encodes a polypeptide which is capable of modulating the production of a fine chemical.

47. (New) An isolated nucleic acid molecule comprising the nucleic acid molecule of any one of claims 39-42, and a nucleotide sequence encoding a heterologous polypeptide.

48. (New) A vector comprising the nucleic acid molecule of any one of claims 39-42.

49. (New) The vector of claim 48, which is an expression vector.

50. (New) A host cell transfected with the expression vector of claim 49.

51. (New) The host cell of claim 50, wherein said cell is a bacterial cell.

52. (New) The host cell of claim 51, wherein said cell belongs to the genus *Corynebacterium* or *Brevibacterium*.

53. (New) The host cell of claim 52, wherein the expression of said nucleic acid molecule results in the modulation in production of a fine chemical from said cell.

54. (New) The host cell of claim 53, wherein said fine chemical is selected from the group consisting of: organic acids, proteinogenic and nonproteinogenic amino acids, purine and pyrimidine bases, nucleosides, nucleotides, lipids, saturated and unsaturated fatty acids, diols, carbohydrates, aromatic compounds, vitamins, cofactors, polyketides, and enzymes.

55. (New) A method of producing a polypeptide comprising culturing the host cell of claim 53 under conditions in which the nucleic acid molecule is expressed, thereby expressing the polypeptide.